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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/971,131	10/04/2001	James C. Tuthill	21488/04040	4066

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EXAMINER

ROSS, DANA

ART UNIT PAPER NUMBER

3722

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/971,131	TUTHILL, JAMES C.	
	Examiner	Art Unit	
	Dana Ross	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-10, 12-16, 18-21, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☒ Claim(s) 8-10, 12-16, 18-21, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2003 and 02 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)            |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. <u>9/16/04</u> .                                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)   |
| Paper No(s)/Mail Date _____.  | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> . |

### **DETAILED ACTION**

1. This is non-final in response to Applicant's Amendment filed 01 July 2004. Upon further review of the claims after the Appeal Conference, it has been determined that a more appropriate rejection of the claims should have been set forth. The previous allowance of the subject matter in claims 8-10, 12, 17 and 18 is withdrawn. The period for reply is hereby restarted.

2. The proposed Examiner's Amendment (attached) that was discussed on 15 and 16 September 2004 with Applicant's Attorney is hereby withdrawn (see Interview Summary).

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, all of the faces and sides set forth in claim 19 must be shown and labeled or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted

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by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

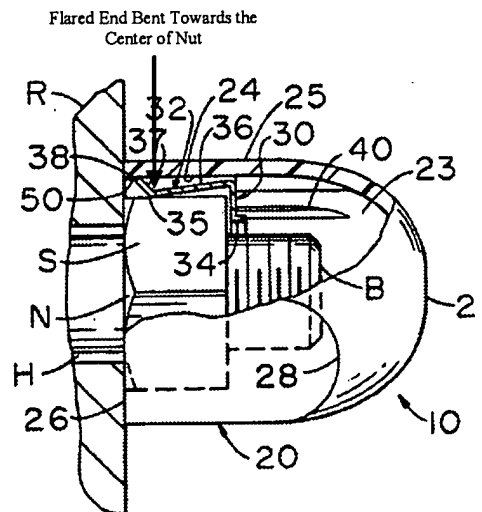
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 8, 12, 13, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Bias (U.S. Pat. No. 5,082,409).

Regarding claim 8, Bias teaches a base (31), peripheral section (32, 36), central aperture (33) wherein the peripheral section includes fingers which define windows (see figures 7 and 9). The fingers each include a “flared end” (see lead lines 37 and 38) “bent” toward the center of the retainer (see figure 3 wherein cap 21 is installed, the ends of the fingers are “bent”).



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Regarding claim 12, the retainer is made from steel (col. 7, lines 65+).

Regarding claim 13 and 16, Bias discloses a retainer (30) comprising an integral base section (31) and a generally perpendicular peripheral section (32) maintaining a cup-shaped configuration while in place over the nut (N). The base section (31) has a central aperture (33) and the peripheral section (32) has an interior surface that includes a plurality of fingers which define one or more longitudinal windows therebetween (see figures 8A and 9). The fingers having nut-engaging surfaces on the interior surface of the peripheral section (this is shown most clearly in figure 3 above).

Regarding claim 18, in as much structure is set forth in the claims, elements (35) and (37) qualify as "lobes."

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9, 14, 15, 19-21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bias (U.S. Pat. No. 5,082,409) in view of Duran (U.S. Pat. No. 5,967,723).

Bias discloses all of the elements as set forth in the above rejections.

Regarding claims 9, 14, 15 and 20, Duran discloses a retainer (16) similar to the instant invention comprising a peripheral section (21) bent away from a base section (17) for engaging surfaces (26) of a nut (22). Duran further discloses a D-shaped or truncated circular cross-section to a central aperture (18) which further restricts movement of the retainer with respect to

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the threaded fastener (11) to which the apparatus is affixed. Bias also discloses finger-like projections that engage the flat surfaces of the nut (N). These projections are intended to restrict a movement of the retainer (30) with respect to the nut (N).

Regarding claim 19, Duran discloses a non-threaded section (14) on the fastener (11) and specifies that the nut includes a first face (generally at 19) adjacent the non-threaded section.

Regarding claim 21, Bias discloses windows between the finger-like projections that extend from the base section to an open end of the peripheral section opposite the base section and that this peripheral section includes nut-engaging surfaces. However, Bias fails to disclose the central aperture includes a D-shaped or truncated circular cross section. Bias also fails to disclose a non-threaded section.

Regarding claim 23, both Bias and Duran teach the peripheral section defines a nut engaging surface on an interior surface (see Bias fig. 3 and Duran figure 4, for example).

Regarding claim 24, Bias teaches the inwardly extending portions are flared ends of fingers upon the peripheral section (see fig. 3 in the above 102 rejections).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the retainer of Bias to include the D-shaped aperture and flat surface on the fastener as taught by Duran since Duran teaches this configuration to lock a nut to a bolt such that the two will not become loose even during extreme vibration (col. 1, lines 33 – 45).

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bias (U.S. Pat. No. 5,082,409) in view of Cronin, II et al. (U.S. Pat. No. 5,618,143, hereinafter “Cronin”).

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Regarding claim 10, Cronin discloses a nut locking device comprising elements similar to both Bias and the instant invention. Cronin discloses that a central aperture of a retaining body (24) may include a bent tab or “leg” (29) extending axially (along the axis of the fastener).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the central aperture of Bias to include the tab of Cronin since Cronin teaches the use of the tab in order to restrict relative movement between two bodies in a locking mechanism (col. 2, lines 50 – 67).

***Allowable Subject Matter***

9. Claims 1-6 are allowed.

The following is an examiner’s statement of reasons for allowance:

The prior art did not disclose nor render obvious a spindle nut retainer as claimed in claim 1 specifically wherein the peripheral section includes nut engaging surfaces on the interior surface of the peripheral section, and includes an integrally formed ring at an end of and interconnecting said fingers opposite the base section as claimed in claim 1.

The closest prior art of record is as is discussed in detail in the above rejections.

There is no prior art that would anticipate or render obvious, either alone or in combination with Bias, the claimed invention of claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

***Response to Arguments***

10. Applicant's arguments with respect to claims 8-10, 12-16 and 18-24 have been considered but are moot in view of the new ground(s) of rejection.

11. It is further noted that Applicant states that "Claim 20 is amended to include the limitation of claim 22". Claim 22 was previously indicated as having allowable subject matter. It is noted that the previously allowed claim 22 included the terminology of "closed by a continuous ring" that has not been incorporated as part of claim 20. The previous office action had indicated allowable subject matter of claim 22 in that "...the prior art did not disclose nor render obvious a continuous ring at the end of a finger-like peripheral section...".



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***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Ross whose telephone number is 703-305-7764. The examiner can normally be reached on Mon-Thurs 6:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 703-308-2159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dmr

  
A. L. WELLINGTON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700

**Proposed Examiner's Amendment (Withdrawn)**

Claim 8 (Amended) A spindle nut retainer for preventing disengagement of a nut threadedly engaged to a spindle, comprising:

an integral base section and a generally perpendicular peripheral section maintaining a cup-shaped configuration while in place over the nut;

wherein said base section defines a central aperture; and

wherein said peripheral section comprises a plurality of fingers which create one or more longitudinal windows therebetween, said fingers each including a flared end having an outer peripheral edge which faces [bent] towards the center of said spindle nut retainer.

Claim 13 (Amended) A spindle nut locking system comprising:

a spindle having a first end;

a nut threadedly engaged to said spindle, said nut having flat[s] regions;

a spindle nut retainer, circumscribing said nut and said spindle, comprising an integral base section and a generally perpendicular peripheral section maintaining a cup-shaped configuration wherein said base section defines a central aperture, and wherein said peripheral section includes a plurality of fingers which create one or more longitudinal windows therebetween, said fingers each including a flared end having an outer peripheral edge which faces [bent] towards the center of said spindle nut retainer.

Continuation of Attachment(s) 6). Other: Withdrawn Proposed Examiner's Amendment.